

Values and the Future: the Impact of Technological Change on American Values

(This article reviews the book *VALUES AND THE FUTURE: THE IMPACT OF TECHNOLOGICAL CHANGE ON AMERICAN VALUES*, edited by Kurt Baier and Nicholas Rescher - New York: The Free Press, 1969, 527 pp.)

Here is a book with the boldness and courage not only to dissect and analyze values and value changes almost to the level of specificity necessary for scientific measurement but which, also, in a way that cannot avoid being value-laden attempts to forecast the effects on values of a wide ranging set of technological innovations to the year 2000. Does it succeed? One might in good conscience further ask: Is the study of values even susceptible to scientific analysis? And why indeed should one be motivated to *want* to study values scientifically? After all, as Theodore Roszak writes:

The values of men are not to be measured or predicted but to be honestly debated, affirmed, and deeply lived, so that we may educate one another by mutual example. It is *this* that we owe one another as fellow citizens [1].

Does this book help to resolve this dilemma?

In the preface to the book (I am an inveterate preface-reader - especially with technical books, for they give one a necessary perspective), the editors are at pains to point out the purpose, scope, and limitations of the work. Unlike most anthologies or readers, this book is the result of a planned collaborative project codirected by the two editors, centered and held in the University of Pittsburgh's Department of Philosophy in 1965/66, and funded through grants from the Carnegie Corporation of New York and the International Business Machines Corporation. Eminent philosophers and social scientists - particularly economists and sociologists - both resident and invited, gathered to participate in this highpowered conference to analyze and exchange ideas. This book represents the formalized outpourings of this period of collaborative effort.

"The most ambitious ultimate aim of the investigation," the editors write, "was to

contribute toward the ways of guiding social change in directions which are at least not incompatible with the realization of our deepest values, and perhaps even helpful to it." To this reviewer, it would seem that in order to succeed in this ambitious undertaking, it would be necessary, at a minimum, to:

- understand the nature of value and value change;

- standardize the terminology to avoid the possibility of misunderstandings (a look at quotes from the literature points out the need for this);

- define the role played by values in causing social change;

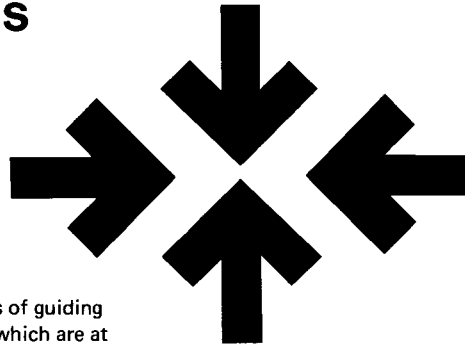
- define the effects on values of social and technological change;

- understand the causal mechanisms of value change;

- identify and develop techniques and methodologies useful not only for carrying out the above but for forecasting, to the year 2000, the concomitant values at that time based on value conflicts and stresses now in evidence and on technological innovations and developments likely to occur in the intervening period.

The book, in fact, does address most of these points and is remarkably successful in its treatment of some of them. Characteristically, though, it raises many more questions than it answers.

In a well-written 30-page Introduction, Alvin Toffler [see discussion of his book *FUTURE SHOCK* elsewhere in this issue - Editor] does more than just introduce the book as a master of ceremonies might introduce his next guest. He proceeds to survey its entire contents in some detail and, at the end, to offer his own review of the work accomplished. Toffler concludes that the book amply demonstrates the sheer enormity of such



an undertaking and the complexity of the problem; that to make any real progress, a wide variety of intellectual disciplines must be drawn into the work; and that further research in the field (such as determining value "profiles" of a community or country or testing hypotheses) will be severely hampered if there is a lack of concrete empirical data. However, it is clear that he is sympathetic to the view, shared by project participants (and this reviewer), that the study of values *ought* to be undertaken, made explicit, objective, and "scientific," and that the results of such efforts ought to become mandatory inputs into resource allocation and policy decisions at the highest (federal government) levels.

Toffler, in line with this implied view, therefore predicts the creation and rise to prominence in the future of a new profession called "Value-Impact Forecasting," the practitioners of which no future corporation or government agency is going to be able to do without. Citing "democratic control over the technological future" as an implied ultimate objective, he says that

value-impact forecasting could help make clear the nature of the moral choice being made each time a line of research is opened, a project funded, or an innovation released from the laboratory.

Such a group of forecasters "armed with scientific tools to review in advance all important technological decisions . . . will soon find themselves located at the hot center of decision-making." [See "Leverage Points for Social Change" in this issue.]

The editors (project codirectors) have divided the volume into three parts: Analysis, Interaction, and Control (the table of contents is reproduced for the benefit of the reader as an appendix to this article). In the first and most important part, a definitional and methodological framework for the study of value and value change is presented. The second and third parts consist of an assortment of papers written by some of the project participants and concern the interplay between technology and values and the mechanisms of control through which values are, or might be, translated into programs. The papers are of varying quality, though they collectively add to the richness of the volume, according to Toffler through "the interstices, the asides, the premises and second thoughts they compel us to consider."

One which will appeal especially to libertarians is an essay by David Braybrooke called "Private Production of Public Goods." Braybrooke foresees a "manifold enlargement of the market for what economists call 'public goods', . . . /where/ market incentives would join with notions of community (or group) improvement to stimulate the invention of new collective goods." Two interesting passages are valuable to whet one's appetite:

In the envisaged market, myriad levels and units of government would bargain with competing private firms for goods and services that under present arrangements tend to be produced by governments themselves if they are produced at all. For *laissez-faire* extremists, having private firms produce them rather than governments would be a step forward. The genuine concern for variety and freedom present in *laissez-faire* beliefs would be substantially met by the variety allowed for in the goods and services bought by different governments. Local governments could aim at different ways of life, and people might shift between localities according to personal tastes.

A crucial feature of the envisaged development is that it does not leave everything for the government to plan and organize in the public sector: it would make private corporations engines of progressive public policy.

The serious reader, however, is compelled to derive testable hypotheses for himself from the material presented. It would have added to the volume if such hypotheses had been made explicit, even

summarized, as indeed forty were in another valuable piece of research, done after this conference but published before the book [2]. Filling in a gap of the Pittsburgh effort, reference [2] presents a viable technique (the Echo Method) for surveying the values of a community or a group which the Pittsburgh researchers lacked but recognized the need for. It seems to offer the promise of a powerful tool which may come to replace existing techniques of value measurement such as content analysis of the mass media, popular fiction, and legislative materials and court decisions [3].

Studies into the nature of value are not new, as evidenced by the extensive 23-page "bibliographic introduction" at the end of the book. What is new is the attempt to include value considerations *explicitly* in long-range planning and resource allocation rather than implicitly relying on a particular (social democratic statist, collectivist, etc.) value system without ever acknowledging doing so. *This* is the book's central message and underscores its importance for libertarians and others who do *not* share the Establishment's value system. Perhaps radicals will soon have the chance to see *their* values applied to national problems.

The book is noteworthy for a number of the points it makes, particularly the following considerations.

It is unique in its future-orientation to the study of values. An interesting experiment, combining some relatively advanced techniques of role-playing simulation, for example, and Delphi forecasting which are clearly explained in the book, seeks to predict the effects on values of certain important technological developments thought likely to occur between now and the year 2000. These are:

- 1) Fertility control
- 2) 100-year life span
- 3) Personality-control drugs
- 4) Incapacitating rather than lethal weapons
- 5) Sophisticated teaching machines
- 6) Ocean farming
- 7) Controlled thermonuclear reactions
- 8) Continued automation in commerce and industry
- 9) Artificial life
- 10) Weather control
- 11) General immunization
- 12) Genetic control
- 13) Man-machine symbiosis
- 14) Household robots
- 15) Preservation of privacy
- 16) Wide-band communications systems

- 17) Continued space exploration
- 18) Advanced techniques of opinion control, thought manipulation, propaganda
- 19) Continued trend toward urbanization
- 20) Ova/sperm banks established

The experiment, or game, is actually an important contribution to the art of decision-making and a good example of a new trend - dialectical planning. This concept is actually not new but is undergoing a revival, having been first propounded in the fifth century BC by Heraclitus, who taught that no change was possible without conflict, a theme later picked up by Hegel [4] in his notion of thesis/antithesis/synthesis and more recently by Churchman [5] and Mason [6]. In the game, two groups of planners are instructed to allocate resources to the development of each of these technological advances (in order to accelerate such development) according to different value systems assigned to them. One group had as its objective the maximization of GNP, the other, the enhancement of human freedom. That the results were surprisingly similar is due in large part to the common value system unavoidably held by the participants, who were drawn from IBM, RAND, NSF, the Harvard Program on Technology and Society, etc. - quite a homogeneous intellectual group from a values point of reference. Another conclusion which might have been easily predicted was that among the groups of futures evaluators (people playing certain roles as if they were living in the year 2000), the presently least privileged groups - teenagers, the poor, the aged - opted for the freer world more than did the others - housewives, middleclass employed, the cultural elite.

These results are traceable to a variety of causes, such as the biases of the role players, the one-shot decision process (unrealistic), and the larger number of changes, technological or otherwise, which would affect resource allocation decisions. However, the criticism should more justifiably be leveled at the performance of the game rather than the principles on which it rests. As embryonic as these methods must seem to "hard" scientists, they do seem to offer some of the very few approaches available for dealing with this "inexact" science of human behavior and show immense promise of further methodological development. The entire account makes for fascinating reading and Theodore Gordon's analysis of some of the social implications of each of the technological developments is remarkable for its perception.

As an aside, I could not help drawing parallels with the real world while reading about the game. National policies are in effect and national priorities reflected in the budget (ask Senator William Proxmire) in spite of claims made to the contrary by the Administration. When contrasted with the value system cherished by libertarians, for example, the discrepancies are glaring. If you, the reader, were to play a game in which it would be possible to obtain the appropriate power and authority, where would *you* apply the national resources? (A fictional account of a future in which people could specify how their income tax be spent is given in [7].) Could you state why you settled on each choice? Can you identify the values which would cause you to behave in this way? Can you predict how ensuing developments will in turn affect your inclinations to make further changes? If such questions fascinate you, this book will surely stimulate you. Rather than feeding answers, however, it asks more questions and suggests ways in which, by learning more about the feedback relationships that make technology and values sensitive to each other, these questions may eventually be answered.

An important contribution has been made to establish a definitional base upon which further study in this field can build. In the opening essay, "What is Value? An Analysis of the Concept," Baier concentrates on his quest to define "value" precisely enough for measurement purposes, in line with the general aim of the whole project to make the study of values amenable to scientific analysis. Rather ponderously, he develops his points: that it should always be clear *whose* values we are talking about, that is, which person, group, or institution subscribes to them; what amount of the value is held; and by what criteria we have appraised them. Baier writes about a basic idea of value (whether ascribed to a thing or a person) having the capacity to confer a benefit on someone or of making a favorable difference in his life. The prime difficulty in value measurement and definition is the objective appraisal of this benefit or favorable difference. This is clearly brought out in his definition of a thing which makes a favorable difference in a person's life as one which, "whenever it plays a helpful causal role in bringing about a certain change in a person's life, makes that life more worthwhile *than it would otherwise have been.*" This is not a before-and-after the change comparison, but it is one where the situation resulting from the actual change is compared to what might have been but for the causal impact of the

thing. The commonest things playing such causal roles are, of course, people, who by their very actions affect what they and others subsequently do. To drive home more completely the difficulty of measurement, Baier introduces the notion of "*potential* favorable changes, the results of which increase *our ability* to make favorable changes and differences, thereby increasing our ability to cater to those of our tastes we most want catered to."

Rescher extends this analysis in the book's second essay to value change and suggests that the economic theoretical approach of cost-benefit analysis is eminently suited for measuring value change. More accurately, it may be a method to measure the *propensity* for value change in the future. Rescher reasons as follows: If "x" is a value held by N, then it can be inferred that N is prepared to devote some of his resources (time, money, effort, discomfort) to its implementation. N does so *in the belief* that the increased realization of "x" will benefit certain individuals - either N himself or others to whose interest he is attached. Because, as Rescher goes on to say, authentic adherence to a value implies some commitment to the pursuit of its realization in terms of resources ("advocacy and verbal support at the very minimum"), the force which causes change is less an attack upon the value at issue than upon the holding of it (the level of commitment applied) by someone under specifiable conditions. This causal change can take the form of alternatives:

an oversubscription to a value, where its holder either has an exaggerated perception of the benefits involved, thus increasing his "investment" in it, or he simply overinvests *per se*;

an undersubscription to a value, with a reverse conception of the benefits and costs (investments) involved, causing the opposite kind of behavior.

Societal and group norms are good examples where such pressure for change (usually by the group toward the individual) is directed toward the person's perceptions of the benefits and investments involved in subscribing to a value rather than on the value itself. The techniques for actually performing such measurement are strangely absent from the essay - a fault with Baier's contribution too - and are undoubtedly left for future researchers to discover and implement.

Rescher is equally as bent on definition and classification as Baier (to the reader's gain, I might add), classifying types of value change (value acquisition, abandonment, redistribution, emphasis, de-emphasis, rescaling, redeployment, re-standardization, and implementation re-targeting) and causal change factors. In very useful appendixes, he presents in turn a glossary of terms, an outline of a "tentative register of American Values," a list of possible developments to the year 2000 having major implications for American values, and some possibilities for future value change in America. In his conclusion, he ventures a list of values which will change as a result of being subjected to severe stresses and strains, as follows:

Upgrading

mankind-oriented values (humanitarianism, internationalism);
the intellectual virtues;
reasonableness and rationality;
the civic virtues;
group acceptance;
social welfare;
social accountability;
order;
public service;
esthetic values;

Downgrading

nation-oriented values (patriotism, chauvinism);
the domestic virtues;
responsibility and accountability;
independence (in all its senses);
self-reliance and self-sufficiency;
individualism;
self-advancement;
economic security;
property rights (and personal liberty generally);
progressivism (faith in progress);
optimism (confidence in man's ability to solve man's problems).

Concerned libertarians will note with some dismay the prediction that social accountability might be upgraded and that individualism, property rights, and personal liberty generally might be downgraded. It is an interesting list and merits reflection. It was compiled from results of a questionnaire (reproduced in full in the book), another technique which, given time, will improve to yield more reliable results.

Finally, this book *emphasizes the need for a scientific study of values*. If it is acknowledged that our desire to subscribe to certain values is the causal factor in our behavior and a fundamental factor in our motivations, then an intensive examination of values is essential for effective planning (deciding *what* we do next, either individually or as a group, or institution, or nation, and *why*). The book does not tell us what our values are going to be or, for that matter, what they are now. It attempts to show what they might be as a result of using certain methods and by considering certain technological developments. As the Preface says:

It is no exaggeration to say that we do not have available even a terminology in which to record an individual's or group's values, let alone precise instruments for ascertaining what they are or what changes they are undergoing. And we are in a worse position with regard to determining the soundness of values.

The book has the flavor throughout of advocating a *normative* mode of forecasting rather than a *deterministic* or *extrapolative* mode. Its power lies in the fact that its central message is that *if we want to* (this itself is expressing a value, proving how impossible it is to write or to think objectively about values, although by making them explicit, as this book encourages, constructive debate can follow), it is possible for us *to intervene and to change* the course of events in ways which, as well as we can determine at the present, improve the excellence or intrinsic worth of our own lives or the lives of others. Because the rate of social and especially technological change is accelerating [8], it is becoming increasingly difficult to determine the effects of such changes on the quality of life and on human values. (Another technique, to note in passing, which focuses on unraveling the mysteries of behavior of complex systems through time and showing how counterintuitively they function is Industrial Dynamics. A recent article relates values and quality of life to other major world problems, demonstrating how it is possible, by taking action now, to influence in positive ways our future [9].)

Many people don't realize it, but by *not* making certain decisions now (for example, by postponing them) the decision is nonetheless implicitly made to carry on as we are. Future values and technological advances will be molded and guided nevertheless as a result of the momentum of present trends which are allowed to continue unabated. Toffler's idea of

"Value-Impact Forecasters," were it to cover forecasting the impacts on values for all manner of subgroups in society and not just for the intellectual elite, would be a viable mechanism to ensure that not only are values included explicitly in decision-making but that more of the right kinds of decisions are made.

This book, it seems to me, might appeal most to the thinking professional and decision-maker. In private industry, this might be an executive in Research and Development, newproduct planning, marketing, and at the highest level, in long-range planning, and in government, those responsible for national policy (if one could only pin down that responsibility), for resource allocation, and for spending a large portion of public monies on research and action programs. Mind you, the book does not tell one precisely *how* to arrive at one's own value "set," nor how to evaluate or appraise it, nor indeed how to incorporate this knowledge into a strategic decision to improve it. So there would be no way for these people to go out and *apply* what they got out of the book to their everyday concerns. If this is the expectation a reader brings with him when he comes to the book, he will be disappointed. Instead the reader will find himself more *aware* of the need to consider values explicitly *somehow* in what he does, whether the decision has national implications or is of concern to only one other person, and that values are susceptible to change by a wide variety of stimuli. For these reasons, the book will also appeal to the thinking layman. I use the adjective "thinking" purposely, because the book is *useful only to the extent* that the reader "makes something of it" and can appreciate the *potential* in the results more than the results themselves. To all those concerned with social change and its implication, I recommend it.

NOTES AND REFERENCES

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SCIENCE FICTION SCENARIOS

In addition to being entertaining, many science fiction novels and short stories provide thought-provoking examples of *future scenarios* - well thought-out, consistent explorations of social and/or technological developments and their effects on a society. Some representative examples are listed below:

A society in which defense and protection are exclusively provided by private companies (they are considered too important to trust to government bureaucracies) is a background feature of "The Moonrakers" by Poul Anderson, featured in the collection *BEYOND THE BEYOND* (New York: New American Library, Signet paperback, 1969).

A variety of antibureaucratic, laissez-faire societies are visited by a government mission in Eric Frank Russell's satirical classic *THE GREAT EXPLOSION* (New York: Dodd, Mead & Company, 1962).

The implications of various biomedical developments are explored in two Robert Heinlein novels. The radical effects of cryogenic hibernation on social institutions are explored in *THE DOOR INTO SUMMER* (New York: New American Library, Signet paperback, 1959), and the development of longevity among a small minority of humans is the theme of *METHUSELAH'S CHILDREN* (New York: New American Library, Signet paperback, 1960).

The ramifications of colonizing the seabed - political, economic, and social - are considered in *THE DEEP RANGE* (New York: Harcourt, Brace, 1957) by Arthur C. Clarke (of 2001 fame).

A society in which children have legal rights, including the right to "divorce" their parents, is the backdrop of *THE STAR BEAST*, an early Heinlein novel (New York: Charles Scribner's Sons, 1954).

Coexisting, competing social systems (selected for short periods in separate communities by vote) are examined in Chad Oliver's "The Mother of Necessity," included in his book *ANOTHER KIND* (New York: Ballantine Books, paperback, 1955).

A functioning anarchist society, a corporate form of group marriage, and a successful libertarian revolution on the Moon are featured in Heinlein's *THE MOON IS A HARSH MISTRESS* (New York: G. P. Putnam's Sons, Berkeley paperback, 1968).

An elite group of philosophers and scientists sets up a research project for a galaxy-spanning project to change the course of history in Isaac Asimov's classic trilogy *FOUNDATION*, *FOUNDATION AND EMPIRE*, and *SECOND FOUNDATION* (Garden City, N. Y.: Doubleday & Company, 1967).

A galaxy-wide police force secretly forbidden to kill any intelligent creature is the subject of a series of Poul Anderson short stories, including "The Live Coward" in *ANOTHER PART OF THE GALAXY* (Greenwich, Conn.: Fawcett Publications, Inc., paperback, 1966) and "Enough Rope" in *FOUR FOR THE FUTURE* (New York: Pyramid Books, paperback, 1959). ●